

ANNUAL MEETING REPORT OF THE NATO CCMS PILOT STUDY ON CLEAN PRODUCTS AND PROCESSES

**May 12-16, 2002
Vilnius, Lithuania**

The 5th annual and concluding meeting of the NATO CCMS Pilot Study, Clean Products and Processes, was held in Vilnius, Lithuania, from May 12 to 16, 2002. Although attendance was somewhat smaller this year than last year, this meeting ran well and ended with great optimism for Phase II, the approval of which was communicated to us by the office of Ms. Wendy Grieder, the US EPA CCMS representative. The success of this meeting was largely owed to the able organization and leadership of Prof. Jurgis Staniskis of Kaunas University of Technology. The meeting was sponsored by NATO CCMS, US EPA, the Ministry of National Defense Republic of Lithuania, and the Ministry of Environment Republic of Lithuania. The delegates enjoyed the rare opportunity of having a half-an-hour meeting with Mr. Valdas Adamkas, the President of the Republic of Lithuania. In last year's meeting in Oviedo, Spain we decided to shorten the duration of the meeting from four and a half days to three and a half days. Thus the Vilnius was concluded on Thursday.

The Vilnius meeting began on Sunday May 12 with registration, introduction of the delegates, some pilot projects updates and tour de table presentations, and continued until Thursday noon with technical presentations, software demonstrations, trips to industrial sites that practice cleaner production, concluding with a wrap-up discussion and planning for Phase II.

Here is a summary of the various activities:

1. Monday May 13 was marked by a one-day conference on Industrial Ecology, which was particularly significant because of the opening talk by Mr. Arunas Kundrotas, the Minister of Environment Republic of Lithuania. Monday afternoon the delegates had a special meeting with the President of Lithuania. The titles of the symposium talks are:
 - From pollution to industrial ecology and sustainable development: Prof. Lennart Nielsen, Royal Stockholm Technical Institute (Sweden)
 - Industrial ecology and eco-efficiency, introduction to the concepts: Prof. Anik Fet, Trondheim Technical University (Norway)
 - Extended producer responsibility in cleaner production: Dr. Morten Karlsson, Lund University (Sweden)
 - Strategies and mechanisms to promote cleaner production financing: Ari Huatala (UNEP, Paris)
 - Cleaner production financing: possibilities and barriers: Dr. Zaneta Stasishiene, The Institute of Environmental Engineering (Lithuania)
 - Industrial ecology in university curricula: new international MSc program in cleaner production and environmental management (Lithuania)

- Chemical risk management in enterprises: Dr. Jolita Kruopiene, The Institute of Environmental Engineering (Lithuania)
- Practical implications of industrial ecology in Lithuanian industry:
 - Electronic industry: Vaclovas Sleinota (Vilniaus Vingis)
 - Textile industry: Nerijus Datekunas (Utenos trikotazas)
 - Paper industry: Arunas Pasvenskas (Klaipedos kartonas)
- International implications on industrial ecology
 - Utilization of cleaner production methodology on the example of dairy plant: Frantisek Bozek (Czech Republic)
 - Utilization of cleaner production on the example of poultry processing plant: Frantisek Bozek (Czech Republic)

The computer Café was the last session for Monday. The Café included demonstration of softwares that are helpful to cleaner production.

3. Tuesday May 14 was devoted to visiting three companies chosen for their exemplary cleaner production policies and practice. We visited a refrigerator production company “Snaige”, a textile company “Alytaus tekstile”, and a wine and sparkling wine production company “Alita”.
4. On Wednesday we completed the tour de table presentations and updates on current and completed projects. There were also several specialty presentations:
 - Industries of the future – partnerships for improving energy efficiency, environmental performance and productivity: Steve Weiner (USA)
 - Ceramic membranes applications in clean processes in Russia: Prof. G. Kagramanov (Russia)
 - University-Industry Cooperation
 - An update on Government support for clean products and processes in the United Kingdom: Prof. Jim Swindall (UK)
 - Waste minimization, revalorization and recycling of solid waste in Spain: Prof. Jose’ Coca-Prados (Spain)
 - Presentation of Lithuanian CP Center: Prof. Jurgis Staniskis (Lithuania)
 - Programs of the National Science Foundation related to clean processing: Dr. Thomas Chapman (USA)

The Pilot Study consisted of several projects that were sponsored by member countries, some of which were collaborative (between countries) in nature. Several of these projects were completed during Phase I. The following project updates were presented in Vilnius:

- Pollution prevention tools: Dan Murray (USA) - ongoing
- Reuse of waste materials of iron-steel industries and development of sorbents from these materials for absorption of hydrogen sulfide in waste gases: Aysel Aytimtay (Turkey)-- complete
- The Danish Center for industrial water management: Henrik Wenzel (Denmark) -- complete
- Life cycle assessment of gasoline blending options: Teresa Mata (Portugal) -- complete

The discussion during the closing session of the meeting focused on the transition from Phase I to Phase II. A review of the Phase II proposal that has been approved by NATO CCMS was presented by the Pilot Study Co-Director. The proposal reaffirmed the goals of Phase I and established the following goals for Phase II:

- To support the development of eco-efficiency and sustainability indicators and promote consistency and harmonization of their application;
- To examine and exchange information on state-of-the-art advancements in product design and process development in service and industrial sectors of importance to participating nations;
- To develop a web-based portal for the dissemination of pilot study results and improved awareness of related global developments; and
- To stimulate and facilitate productive collaboration among all participating nations.

The delegates discussed how to move forward in Phase II and to work together to work in the implementation areas described in the Phase II proposal. These implementation areas will address tools for assessment of pollution prevention and sustainability and for the design of cleaner products and processes; cleaner production techniques in priority industrial areas; and electronic dissemination of information and knowledge of cleaner products and processes.

A long discussion was held on the approach to be taken to implement a pilot project on the development and application of sustainability indicators. This pilot project was originally proposed at the fourth meeting in Oviedo, Spain, by delegates from Germany, Hungary, Lithuania and Norway. These delegates and others called for continued support for this pilot project. It was agreed that during the coming year, all delegates would provide information regarding the status of sustainability indicator development and application in their countries. The delegate from Germany agreed to develop framework for the provision of this information and send it to each delegate by September 1, 2002. Each delegate, using the information framework will provide their information to back to the German delegate by December 31, 2002. The German delegate will then prepare a summary report based on the information. At the next meeting in 2003, a “workshop” will be held as part of the meeting. This workshop will consist mainly to facilitate discussion of the issues raised in the summary report and recommendations for actions to be taken by the delegates to meet the goals of this pilot project on sustainability indicators. Initial issues raised included the need to define “sustainability” and then develop a range of indicators to measure progress towards sustainability. It was agreed that indicators could be specific and general. Indicators could be based on measures of eco-efficiency, energy efficiency, or personal “carrying capacity”. Also, indicators could be industry-based, economic, environmental, or political. A final challenge will be the development of indicators with some common units for consistent application and measurement.

The delegates also reaffirmed their interest in addressing cleaner processes and products in priority service/industrial sectors. At the first meeting in Cincinnati in 1998, the delegates prioritized industries for examination. The order of priority for the top five industries was textiles, organic chemicals (including pharmaceuticals), energy

production, pulp and paper, and food. The delegates emphasized that attention to chemical production, energy production, and food/agriculture, along with electronics should be priority for Phase II. The delegate from Denmark emphasized continued interest of the pilot study in product design and service sectors.

To increase information exchange among the delegates and to provide more timely and regular updates, the delegates agreed to provide mid-year reports on progress in clean products and processes in their respective nations. Each delegate will provide a report to the Co-Director by December 31, 2002. U.S. EPA will move ahead with enhancements to the pilot study web site during the coming year.

The delegates voted to conduct the next meeting in Italy in early-May of 2003. The specific site of the meeting will be either Rome or Calabria, depending on cost and travel factors.

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Clean Products and Processes